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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,146	02/17/2004	Jason Victor Tsai	LeCr:Guide1	6027

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EXAMINER	
HOLLINGTON, JERMELE M	

ART UNIT	PAPER NUMBER
2829	

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary	Application No.	Applicant(s)	
	10/781,146	TSAI ET AL.	
	Examiner	Art Unit	
	Jermele M. Hollington	2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

JMH 4)☒ Claim(s) 1-~~20~~ 25 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

JMH 6)☒ Claim(s) 1-~~20~~ 25 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 12/05.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 7-11, 13-14, 17-22, 24-26 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Barabi et al (6208155).

Regarding claim 1, Barabi et al disclose [see Fig. 2] a guide (test socket 11) for tip (probe tip 21) to transmission path contact (solder ball contact 43), said guide comprising at least one guide insulator (IC platform 25), at least one passageway (guide holes 27) defined by said at least one guide insulator (25), said at least one passageway (27) having a tip passageway end (bottom of hole 27) and a transmission path passageway end (top of hole 27); said tip passageway end (bottom of 27) suitable for at least partially accommodating said tip (21); said transmission path passageway end (top of 27) suitable for at least partially accommodating a transmission path (43); and said tip (21) contacting said transmission path (43) through said at least one passageway (27) when said transmission path (43) is positioned in said transmission path passageway end and said tip (21) is positioned within said tip passageway end.

Regarding claim 2, Barabi et al disclose said guide (25) facilitates relatively secure contact between said tip (21) and said transmission path (43).

Regarding claim 3, Barabi et al disclose said guide insulator (25) is removably interconnectable with a circuit board component having at least one transmission path (43).

Regarding claim 4, Barabi et al disclose said tip passageway end guides (top and bottom of 27) said tip (21) towards said transmission path (43).

Regarding claim 7, Barabi et al disclose said at least one guide insulator (25) is at least one divider guide insulator (frame wall 17).

Regarding claim 8, Barabi et al disclose said at least one guide insulator (25) further comprising a mounting apparatus (mounting spring 35) and at least one divider guide insulator (17).

Regarding claim 9, Barabi et al disclose said at least one guide insulator (25) further comprising a mounting apparatus (mounting spring 35) integral with at least one divider guide insulator (frame wall 17).

Regarding claim 10, Barabi et al disclose at least two guide insulators (25), said at least two guide insulators (25 and 17) being adjustable in relation to each other.

Regarding claim 11, Barabi et al disclose [see Fig. 2] a guide (test socket 11) for tip (probe tip 21) to transmission path contact (solder ball contact 43), said guide comprising a guide insulator (IC platform 25), at least one passageway (guide hole 27) defined by said at least one guide insulator (25), each passageway (27) having a passageway thickness, each passageway (27) having a tip passageway end (bottom of 27), said tip passageway end (bottom of 27) having a tip passageway end thickness, said tip passageway end suitable for at least partially accommodating a tip (21); each passageway having a transmission path passageway end (top of 27), said transmission path passageway end having a transmission path passageway end thickness, said transmission path passageway end suitable for at least partially accommodating said transmission path (43); and said tip (21) contacting said transmission path (43) through said

at least one passageway (27) when said transmission path (43) is positioned in said transmission path passageway end and said tip (21) is positioned within said tip passageway end.

Regarding claim 13, Barabi et al disclose said transmission path passageway end (top of 27) is directly opposite said tip passageway end (bottom of 27).

Regarding claim 14, Barabi et al disclose said tip passageway end (bottom of 27) has an opening on a peripheral guide surface of said guide insulator (25).

Regarding claim 17, Barabi et al disclose including at least two passageways (27), said at least two passageways (27) being adjustable in relation to each other.

Regarding claim 18, Barabi et al disclose [see Fig. 2] a guide (test socket 11) for tip (probe tip 21) to transmission path contact (solder ball contacts 43), said guide (11) comprising: (a) at least one mounting apparatus (mounting spring 35), (b) at least one divider guide insulator (frame wall 17), said at least one divider guide insulator (17) mountable in said at least one mounting apparatus (35), (b) at least one passageway defined by said at least one divider guide insulator (17), (c) each passageway having a tip passageway end (bottom of 27), said tip passageway end suitable for at least partially accommodating a tip (probe tip 21); (d) each passageway having a transmission path passageway end (top of 27), said transmission path passageway end suitable for at least partially accommodating said transmission path (43); and (e) said tip (21) contacting said transmission path (43) through said at least one passageway when said transmission path (43) is positioned in said transmission path passageway end and said tip (21) is positioned within said tip passageway end (bottom of 27).

Regarding claim 19, Barabi et al disclose said at least one mounting apparatus (mounting spring 35) and said at least one divider guide insulator (frame wall 17) are integral.

Regarding claim 20, Barabi et al disclose said at least one mounting apparatus (mounting spring 35) is divisible.

Regarding claims 21 and 25, Barabi et al disclose said transmission path (43) is positioned in said transmission path passageway end (top of 27) of said at least one guide insulator (25) before said tip (21) is positioned within said tip passageway end (bottom of 27) of said at least one guide insulator (25).

Regarding claims 22 and 26, Barabi et al disclose said transmission path (43) is positioned in said transmission path passageway end (top 27) of said at least one guide insulator (25), said guide insulator (25) provides general protection properties.

Regarding claims 24 and 28, Barabi et al disclose said guide insulator (25) has two passageways.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 5-6, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barabi et al (6208155) in view of Bodenweber et al (6281692).

Regarding claims 5-6 and 15, Barabi et al disclose [see Fig. 2] a guide (test socket 11) for tip (probe tip 21) to transmission path contact (solder ball contact 43), said guide comprising at least one guide insulator (IC platform 25). However, they do not disclose at least one passageway includes a contact enhancing mechanism as claimed. Bodenweber et al disclose (see

Fig. 1) a guide (test structure 10) for tip (tip of pogo pin 32) to transmission path contact (pin 34), said guide (10) comprising at least one guide insulator (interposer 12), at least one passageway (combination of passageways 22 and 24) having a tip passageway end and a transmission path passageway end; and said tip (32) contacting said transmission path (34) through said at least one passageway (22 and 24) wherein said at least one passageway (22 and 24) includes a contact enhancing mechanism (electrically conductive element 30) said tip (32) indirectly contacting said transmission path (34) via said contact enhancing mechanism (30). Further, Bodenweber et al teach that the addition of contact enhancing mechanism (conductive element 30) is advantageous because it maintains a good electrical contact between the tip and the transmission path. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the apparatus of Barabi et al by adding contact enhancing mechanism as taught by Bodenweber et al in order to maintain a good electrical contact between the tip and the transmission path.

Regarding claim16, Barabi et al disclose [see Fig. 2] a guide (test socket 11) for tip (probe tip 21) to transmission path contact (solder ball contact 43), said guide comprising at least one guide insulator (IC platform 25). However, they do not disclose a contact enhancing mechanism as claimed. Bodenweber et al disclose (see Fig. 1) a guide (test structure 10) for tip (tip of pogo pin 32) to transmission path contact (pin 34), said guide (10) comprising at least one guide insulator (interposer 12), at least one passageway (combination of passageways 22 and 24) having a tip passageway end and a transmission path passageway end; and said tip (32) contacting said transmission path (34) through said at least one passageway (22 and 24) wherein said at least one passageway (22 and 24) includes a contact enhancing mechanism (electrically

conductive element 30) said contact enhancing mechanism is selected from a group consisting of: (a) solid contact enhancing mechanism, (b) combination contact enhancing mechanism, and (c) soft contact enhancing mechanism [see col. 4, lines 31-34]. Further, Bodenweber et al teach that the addition of contact enhancing mechanism (conductive element 30) is advantageous because it maintains a good electrical contact between the tip and the transmission path. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the apparatus of Barabi et al by adding contact enhancing mechanism as taught by Bodenweber et al in order to maintain a good electrical contact between the tip and the transmission path.

5. Claims 12, 23 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barabi et al (6208155).

Regarding claim 12, Barabi et al disclose said guide insulator (25) having tip passageways end (bottom end of 27). However, they do not disclose a funnel shaped opening or an enlarge, partial funnel shaped opening. It is well known to make the tip passageways end to any opening shape where needed (see MPEP 2144.04; In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966)). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to make the tip passageways end to be funnel shape since the court held that the configuration of shapes was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed shape was significant.

Regarding claims 23 and 27, Barabi et al disclose said guide insulator (25) having passageways for the transmission paths (43) of the device (BGA device 41) to be probed.

However, they do not disclosed the insulator having fewer passageways that the transmission paths. It is well known to make less passageways for an insulator than transmission paths where needed (see MPEP 2144.04; In re Seid, 161 F.2d 229, 73 USPQ 431 (CCPA 1947)). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to make fewer passageways for an insulator than transmission paths since it was held that matters relating to ornamentation only which have no mechanical function cannot be relied upon to patentably distinguish the claimed invention from the prior art.

Conclusion

6. Applicant's arguments filed Dec. 22, 2005 have been fully considered but they are not persuasive.

1) The applicants' argue: *"The Barabi reference describes a completely different device in which the test socket is associated with the test probe, not the device to be tested... Barabi never contemplates the platform with the array of guide holes as an independent unit, but only as a unit in combination with the array of pogo pins. The Barabi platform with the array of guide holes, taken alone, would suffer from many of the same problems as the device described in U.S. Patent No. 6,281,695 to Chung, et al. (the "Chung reference") that was discussed in applicants' original specification. For example, one problem with the Barabi platform is that it must be made for each size and shape ball grid array to be tested... Still another problem with the Barabi platform is that it contacts all sides of the ball grid arrays to be tested, again limiting its ability to be used with different types of devices to be probed."*

In response to the above arguments, first, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the

claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Secondly, applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Lastly, applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

2) The applicants further argue: *"Claims 5, 6, 15, and 16 include the limitation of a contact enhancing mechanism. The Examiner rejected these claims as obvious over the Barabi reference in combination with the Bodenweber reference. First, applicants respectfully submit that the Barabi and Bodenweber devices are nonanalogous to the present invention. Neither reference is concerned with the same considerations as or problems of the present invention. Both the Barabi and Bodenweber devices are connected to the test probes. Both the Barabi and Bodenweber devices must be made for each size and shape of the devices to be tested. Further, neither the Barabi nor Bodenweber devices have the general protection properties (e.g. protecting transmission paths from damage caused by accidental probing, dropping of heavy items thereon, dropping of conductive items thereon, or any contacting that is unwanted) of the present invention. Second, applicants respectfully submit that the basic requirements of a prima facie case of obviousness require that there must be some suggestion or motivation, either in the references themselves or in knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings (MPEP 2143). The proposed modification, however, cannot render the prior art unsatisfactory for its intended purpose (MPEP 2143.01) and/or cannot change the principle of operation of a reference (MPEP 2143.01)... Accordingly, the proposed modification of the Barabi device would make the Barabi device unsatisfactory for its intended purpose and/or would change the principle of operation of the Barabi device."*

7. In response to the above arguments, first, in response to applicant's argument that Barabi and Bodenweber is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both references deal with using a guide test structure to help guide a tip to make contact with a device under test within a path. Second, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Third, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Fourth, in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly

suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermele M. Hollington whose telephone number is (571) 272-1960. The examiner can normally be reached on M-F (9:00-4:30 EST) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (517) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jermele M. Hollington
Primary Examiner
Art Unit 2829

JMH
March 13, 2006